



INTERSTATE COMMISSION ON THE POTOMAC RIVER BASIN

2016 YEAR IN REVIEW

Mission

Protect and enhance the waters and related resources of the Potomac River basin through science, regional cooperation, and education.

Vision

The Potomac River basin is a showcase for our great nation fulfilling both human and ecological needs.

Values

Commitment to the welfare of the basin

Integrity in our work

Rigorous and unbiased analysis

Open communication in all our relationships

Goals

To be recognized as a leader in the coordination of interstate and regional efforts by government and other partners

To be a provider of services to better meet the needs of our stakeholders

A more informed and active public

Decision making and actions supported by science

(Click on any sentence in italics for more information)

The Potomac River: Year in Review

In terms of flow and temperature, the Potomac River in 2016 followed a pattern seen in many other aspects of life: a roller coaster ride. With little extreme weather, it was marked by rolling cycles of wet, dry, warm, and cool weather in the spring. This affected river water quality, fisheries, and other aspects of the environment.

WINTER

The year starts off wet in January, with more than two feet of snow falling on the basin. The blizzard and following storms bring heavy use of road salt, which elevates salt levels in some streams and rivers into the summer.

- *The Dominion Energy/Possum Point generating facility given approval by Virginia to begin treating and discharging water from coal ash ponds into a tributary of the Potomac River
- *Spill of oil from Dominion Energy Alexandria, Va., facility pollutes tidal Potomac
- *Dominion discharges coal ash pond water into Quantico Crk
- *A 20-foot-high parking lot of snow and accompanying salt at RFK Stadium, a residual of the blizzard, slowly dissolves into the Anacostia River



SPRING

March and May precipitation is very high, and surround a below-average April. River flows and temperatures ride up and down. The lack of a spring freshet reduces sediment loadings in the water. The cycling flows and temperatures interfere with fish spawning, who take cues from strong flows and rising temperatures. The weather also slows growth of aquatic plants and algae blooms.

- *Positive report cards issued by environmental groups
- *Dominion Energy meets with groups, offers increased monitoring of coal ash pond discharge
- *Nearly 10,000 volunteers collect 334,952 pounds of trash at 265 sites in the month-long 28th annual Potomac River Watershed Cleanup



SUMMER

Sediment loadings and reduced sunlight not only stunt aquatic vegetation and algae blooms, but help to reduce areas of lower Potomac and Chesapeake Bay that have chronic summertime low dissolved oxygen problems in the deepest waters. In the Potomac, these "dead zones" can reach from the river's mouth to the Route 301 Bridge. However, as weather warms through the summer, aquatic plants and algae blooms return strongly and the low-oxygen areas expand quickly to greater-than-normal. Stations in the lower Potomac average about 0.5 milligrams per liter of oxygen in July (a healthy stream averages 5 mg/L of oxygen).

- *Drought in Shenandoah valley spawns several wildfires
- *Volunteers remove invasive water chestnut stand in Belmont Bay for a second year
- *Pa. begins farm inspections for best management practices



FALL

Flow remains high early into the fall, but settles into an extended dry period. Low flow triggers daily monitoring by ICPRB's Section for Cooperative Water Supply Operations (CO-OP) in case water releases were needed to meet demand. In Nov., a mysterious sheen appears just downstream of the Monocacy River. The sheen was eventually identified as a spill of lubricating oil from the NRG power plant at Dickerson, Md. Metropolitan area water utilities quickly take action. Several weeks pass before the small amount of oil (~150 gallons) clears out of the river. Efforts continue into 2017.

- *DuPont agrees to pay \$50m to restore env. to the South River and the South Fork of the Shenandoah River for mercury contamination from 1929-1950
- *Permission sought for proposed gas pipeline to run near Hancock, Md., under the C&O Canal & towpath
- *City of Alexandria, Va., responds to public pressure, shortens timeframe for eliminating combined sewer overflows into the river



Assessments by several groups covering the Potomac basin, by itself or as part of the Chesapeake Bay, registered improvement for the river, with the caution that favorable weather conditions had reduced the movement of nutrients and sediment into the waterway. Future restoration of the Potomac and its tributaries, will reach another milestone when the system can remain healthy in the face of extreme weather.



AQUATIC LIFE

- Promoted phone app for citizen reporting of algal blooms (*WaterReporter*)
- Updated Chesapeake stream macroinvertebrate database
- Refined the Chesapeake Basin-wide Index of Biotic Integrity (*Chessie BIBI*), an index of stream health used by the Chesapeake Bay Program
- Worked with state agencies to develop new large river methods to evaluate biological health in the Potomac River basin
- Completed fifth year of the filamentous algae field survey for West Virginia DEP
- Investigated impact of excessive plant and algae growth on water quality and stream macroinvertebrate in the Cacapon River, W.Va.
- Instructed 35 professionals from local, state, and federal agencies on algal identification and field survey methods
- Served on scientific advisory panel of the James River Chlorophyll Criteria Study
- Reported on the scientific basis for Chesapeake Bay chlorophyll criteria
- Published final American Shad report



WATER QUALITY

- Staff responded to several spills in the Potomac River and its tributaries. Staff responsibilities include:
 - Run the Emergency Spill Model and other computer models to estimate travel time and pollutant concentration
 - Advise water utilities to plan accordingly and shut their intake pipes if necessary
 - Facilitate communications among water utilities, emergency responders, gov't agencies, and others
- *Emergency Spill Model parameters were enhanced for a better result during the event of a spill*
- Staff practiced the Emergency Spill Model and communications procedures
- New tracking system for better spill response and information sharing by ICPRB, water utilities, and agencies
- *Developed a new user interface for the map-based portion of the Potomac basin water quality data inventory*
- *Accotink Creek Total Maximum Daily Load (TMDL) development for the pollutants: chloride and sediment. TMDLs are the maximum amount of a pollutant a body of water can receive while still meeting water quality standards*
- Goose Creek Watershed TMDL Implementation Plan:
 - Reviewed and updated 2003 TMDLs
 - Identified management strategies and quantified expected load reductions
 - Developed measurable goals and milestones for implementation
 - Assisted VA DEQ in public participation process



DRINKING WATER AND WATER RESOURCES

- *Initiated development of the Basin-Wide Comprehensive Plan, a roadmap to achieving our shared vision for the basin:*
 - *Advisory committee formed*
 - *Vision statement adopted by advisory committee and ICPRB Commissioners*
 - *Introductory of the plan drafted for stakeholder discussions*
 - *Public participation initiated via an email distribution list and the comprehensive plan website*
 - *Priority water resources challenges finalized*
- *Began the Forests and Water Treatment Costs Project, an assessment of forest protection opportunities and potential pollution reductions and how they affect drinking water costs:*
 - *Initial phase completed. This included calibrating the CBP Model and developing water quality-treatment dose relationships*
 - *Second phase initiated, which includes evaluating land cover conditions, developing methodology for identifying forest protection opportunities, and creating future land use scenario model inputs*
- Participation in Adams County, Pa. Water Resources Advisory Committee
- *Continued Phase 2 of the impervious cover study to evaluate what watershed characteristics make streams most susceptible to the impacts of impervious cover*
- Participation on the Board of the Interstate Council on Water Policy



COMMUNICATION AND EDUCATION

- New website pages:
 - *Environmental Resource Directory, a “tool-box” for educators in Prince George’s Co., Md.*
 - *Coal Ash Information Sheet*
 - *Residential Oil Tanks Information Sheet*
 - *New map template for current and future interactive ICPRB maps*
- Revamp of watershed Groups map and Water Quality Sites map
- Increased reach across all social media platforms:
 - *Facebook*
 - *Twitter*
 - *Instagram*
- New videos:
 - *Emergency River Spill Model*
 - *Score Four Program*
- 51 Potomac News Reservoirs sent to almost 1000 people
- 12 Potomac River Watch's sent out, a summertime weekly Public Service Announcement
- Staff responded to ~400 information requests from students, basin residents, government officials, and others
- Staff presented about ICPRB to several groups and clubs, including many foreign delegations
- ICPRB had an information table at Md. Water Monitoring Council Conference, Festival del Rio Anacostia, Every Kid in the Park at Jones Point Park, Va., Family and Youth Casting Call in D.C.
- B. Wolf helped organize the first annual Hispanic Anacostia River Festival
- *Score Four. Students, Schools, Streams, and the Bay, a comprehensive set of lesson plans that leads students through the process of exploring their watershed and assessing their campus in order to plan and maintain a Stormwater Action Project, was added to the website and taught at local schools*
- 3 High Schools completed the Score Four Program
 - Academy of Health Science
 - Parkdale High School
 - Northwestern High School
- B. Wolf presented Score Four at the conferences of North American Association of Environmental Educators and the Md. Association of Environmental and Outdoor Education
- *Watershed model and green school workshops for teachers*
- Grant received to develop bilingual resources, teach Score Four to six ESOL classes, and develop an environmental club at Northwestern High School in Prince George’s Co., Md.
- Staff participated in Conservation Green Earth Program to teach stormwater stewardship to the next generation
- 23 Prince George's Co., Md. high schools will use ICPRB’s Score Four Program in their classrooms



POTOMAC RIVER DRINKING WATER SOURCE PROTECTION PARTNERSHIP (DWSPP)

- 399 people received a monthly news digest on source water protection
- Staff attended more than 13 meetings and workshops on source water protection
- Lisa Daniels of Pa. DEP replaced Tom Jacobus of Washington Aqueduct as Chairperson
- New members: Berkeley County, W. Va. and Shepherdstown, W. Va.
- Continued exploration of computer-based tools for updating source water assessments
- Conducted a regional source water protection collaborative outreach meeting for the Monocacy & Catoctin watersheds in Md. and Pa.; explored similar collaboration in W. Va.



COOPERATIVE WATER SUPPLY OPERATIONS ON THE POTOMAC (CO-OP)

- 7 Water Supply Outlooks assessed the possibility of water supply releases from upstream water supply reservoirs
- Annual Drought Exercise completed
- Initiation of a Decision Support System to support CO-OP planning and operations
- Water supply alternatives study on potential structural and operational alternatives to meet the future challenges of water demand and climate change
 - Incorporated 4 structural and 6 operational alternatives into PRRISM planning model
 - Evaluated performance of individual and selected combinations of alternatives in the years 2040 and 2085 under 3 climate change scenarios
- 69 Days of drought monitoring
- M. Selckmann replaced retired Jim Cummins as Chairperson of the North Branch Advisory Committee
- GNOME used to construct model for floating contaminants and can help ICPRB estimate downstream travel times to water supply intakes during a spill
- CO-OP staff presented to Fairfax Water, the new General Manager of WSSC, Virginia Tech and other organizations to promote the work of CO-OP and broaden regional cooperation.
- Enhancements and testing of CO-OP's real-time Low Flow Forecast System were completed, including incorporation of Little Falls flow predictions into drought operation tools
- 5 Brown bag lunches explored a variety of topics related to Water Markets. Participants included government agencies, university faculty, and private sector representatives



CHESAPEAKE BAY PROGRAM

- Development of the CBP's Watershed Model Phase 6 including integration of USGS models and assessment of factors that determine nutrient transport. The model is used to simulate ecosystems that are too large or complex for real-world monitoring.
- Receive and quality assure water quality monitoring data
- Prepare data for CBP's online databases
- Respond to data requests and support CBP data analysis

ICPRB Staff Participation

- Stewardship Goal Implementation Team
- Water Quality Goal Implementation Team
- Stream Health Workgroup
- Integrated Trend Analysis Team
- Integrated Monitoring Networks Workgroup
- Status and Trends Workgroup
- Modeling Team



COMMISSIONERS AND STAFF

New Commissioners

Virginia: Del. J. Randall Minchew
Federal: Brig. Gen. William Graham, Amy Guise
District: Willem Brakel, Ph.D., Kimberley Jones, Tiffany Potter, Annemargaret Connolloy
Maryland: Virginia Kearney
Pennsylvania: Kelly Heffner, Jennifer Orr

New Staff

Scott Kaiser (1-year fellowship)

Departing Commissioners

District: Merrit Drucker
Maryland: Herb Sachs
Pennsylvania: Lori Mohr, Roger Steele
Virginia: Del. David Ramadan
U.S.: Brig. Gen. Kent Savre

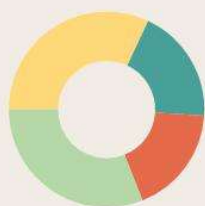
Retiring Staff

Jim Cummins

We thank the departing commissioners and staff for their help in preserving and protecting the Potomac River and its resources

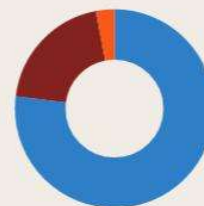
Revenue, \$2.47M (FY16)

Expenses, \$2.42M (FY16)



Budget

(Unaudited)



Grants & Other (32%) Signatory (19%) CO-OP (18%)
EPA 106 (31%)

Salary & Fringe (77%) All Other (20%) Contracts (3%)

*Thank you for helping us protect and enhance the waters
and related resources of the Potomac River basin in 2016*

For questions or comments about the content of this report, please contact Renee Bourassa at rbourassa@icprb.org. Content does not represent the policies of ICPRB.



powered by

